

Resistance curve regulator lever

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#### Background

This invention relates the field of exercise devices more specifically to devices for exercise using springs or elastomers for resistance and devices providing resistance curves.

#### Prior Art

There are resistance curve devices such as 6575881 and there are devices to use springs for resistance such as 6328679 but they are cumbersome and difficult to transport. Patent 657881 uses weight members for resistance so it is heavy. Patent 6328679 is also limited to being mounted to a wall

#### Summary

Present invention allows for the pound per inch requirements associated with stretching a spring or elastomer to be converted to a different pound per inch to stretch spring or elastomer for the purpose that the different pound per inch can be more beneficial than the original pound per inch to stretch elastomer spring.

#### Objects and Advantages

Present invention allows for a very lightweight compact device to make resistance for exercise. It also provides different resistance curves which can be used on different muscles. For example when doing the common exercise of a pulldown a person is strongest at the beginning when arms are extended up at the top and as you pull down it gets harder and harder. In this example a person could set the resistance curve to start with heavy pound per inch and drop to lighter pound per inch as person move through range of motion where it is harder to pull. Another example is when someone does a bench press. In this exercise a person is still strongest when arms are extended, however the range of motion for this exercise begins after a person has lowered the bar down to their chest, where they are not as strong as when arms extended, and then push bar up back to where arms are extended. For this exercise a person could set the resistance curve to be lighter pound per inch when bar is close to chest and pound per inch get harder as bar gets pushed up. Another example is if a person wants to have the same pound per inch through a motion to exercise a muscle they can set that resistance curve with present invention.

#### Description of Invention

Present invention includes a frame<sup>10</sup> which can be made out of , and not limited to being made out of, wood, metal, plastic, fiberglass.

Present invention includes a elastomer spring<sup>20</sup>. The elastomer spring<sup>20</sup> can be made out of and not limited to being made out of metal, rubber, or fiberglass. The elastomer spring<sup>20</sup> should have

the characteristic of being able to stretch and return back to position. The stretching should require some pound per inch to stretch. Elastomer spring20 could be a device which gets squeezed. The squeeze should require a pound per inch to squeeze. The device which gets squeezed should have the characteristic of being able to return back to position.

The pound per inch to stretch will be changed to a different pound per inch by the Resistance Curve Regulator Lever100. The distance over which the pound per inch to stretch the elastomer spring20 can be different or the same as a distance over which the different pound per inch to stretch.

Present invention includes a lever30. The lever30 can be made out of, and not limited to being made out of metal, wood, plastic, fiberglass. The lever30 can have components attached to the lever30 at any distance from fulcrum and can have the components attached to the lever30 on different sides of fulcrum.

Present invention includes a pulley sprocket40. The pulley sprocket40 can work with a cable chain42. The pulley sprocket40 can be made out of, and not be limited to being made out of metal, plastic. The pulley sprocket40 has the purpose of pulling the lever30 from the pulley sprocket position42.

The pulley sprocket position42 in relation to the lever30 and the elastomer spring position22 to the lever30 are both variables in changing the elastomer spring20 pound per inch to stretch to the different pound per inch.

The frame10 can have different places to attach the lever32, different places to attach pulley sprocket44 and different places to attach elastomer spring22, as the different places to attach32,22,44 can effect conversion of original pound per inch to stretch elastomer spring20 to different pound per inch at pulley sprocket40.

I claim Resistance Curve Regulator Lever comprising:

1. a frame a elastomer spring a lever a pulley sprocket said elastomer spring can be attached to said frame said elastomer spring can be attached to said lever said lever can be attached to said frame said pulley sprocket can be attached to said frame said pulley sprocket can pull said lever therefore pulling said elastomer spring a distance requiring a original pound per inch to pull said elastomer spring

where as said pull from said pulley sprocket on said lever can have a different pound per inch than said original pound per inch pulling from said elastomer spring.

2. said frame said elastomer spring said lever said pulley sprocket can be attached in a configuration that said different pound per inch be a constant pound per inch over a distance.

3. said frame said elastomer spring said lever said pulley sprocket can be attached in a configuration that said different pound per inch be a increasing pound per inch over a distance.

4. said frame said elastomer spring said lever said pulley sprocket can be attached in a configuration that said different pound per inch be a decreasing pound per inch over a distance.